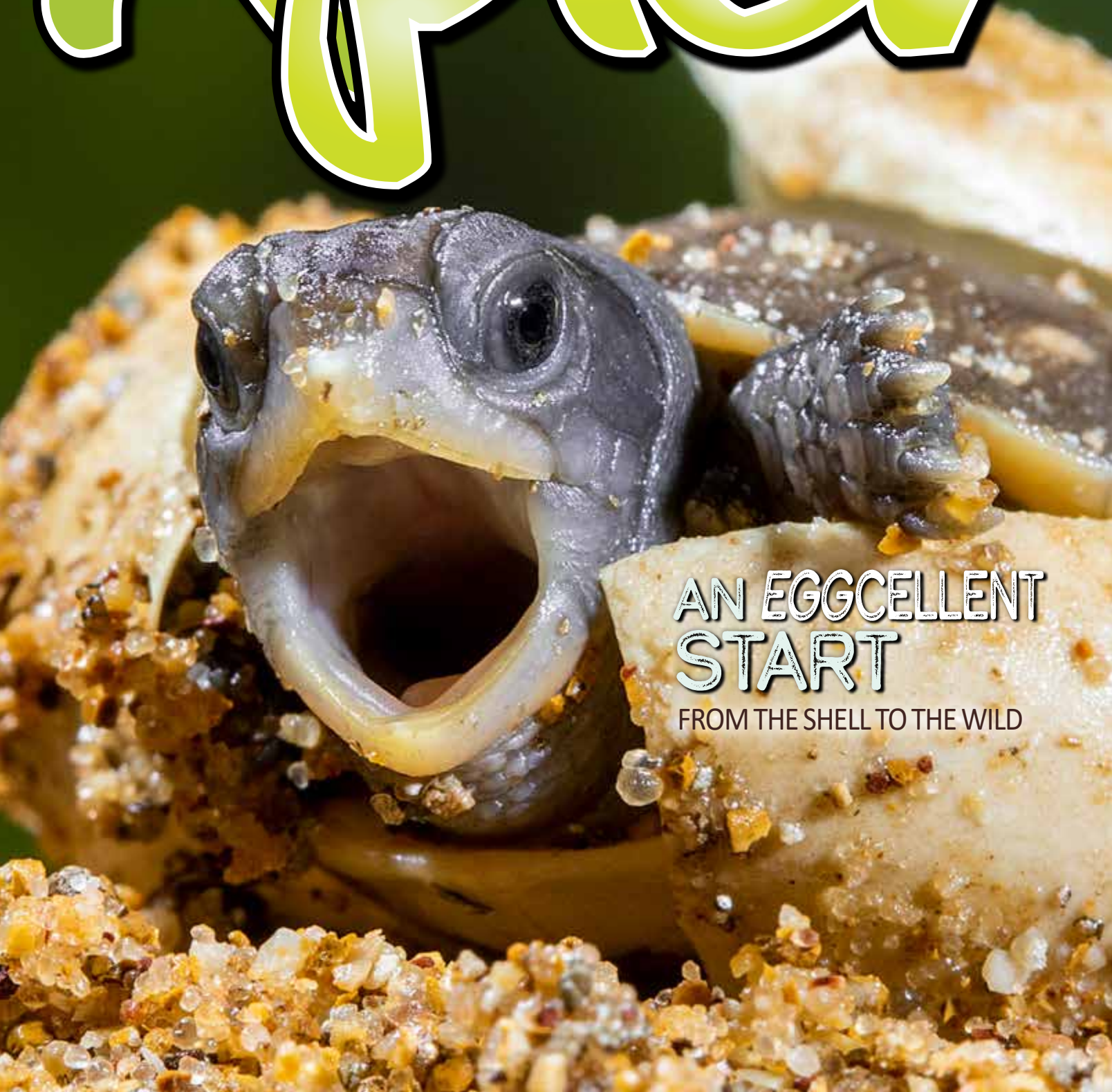




MARCH/APRIL 2022

Xplor



AN EGGCELLENT
START

FROM THE SHELL TO THE WILD

CONTENTS

FEATURES

6 Eggstravaganza

We're eggcited to eggsplore some of Missouri's most eggstraordinary eggs.

12 Sensational Salamanders

Join Slimy the Salamander for a look at the lives of a few amazing amphibians.


CREATURE FEATURE

10 American Paddlefish

Pull out this poster and tape it to your wall to make your room look wild.

DEPARTMENTS

- 2 Strange but True
- 3 What Is It?
- 3 Ask an Opossum
- 4 How To
- 18 Xplor More
- 20 Get Out!
- 21 Go Find It!



A bobcat's eyes are about the same size as yours, but its pupils (the black parts) can open nearly three times wider. This lets in more light, which helps the hungry hunter spot prey in the dark.

📷 by Noppadol Paothong



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Xplor (ISSN 2151-8351) is published bimonthly. It is a publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to Missouri residents (one per household); out of state \$5 per year; out of country \$8 per year. Please allow 6-8 weeks for first issue. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **Postmaster:** Send correspondence to *Xplor Circulation*, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-751-4115, ext. 3856 or 3249.

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Send editorial comments to: **Mailing address:** *Xplor Magazine*, PO Box 180, Jefferson City, MO 65102-0180; **Email:** Xplor@mdc.mo.gov. **Please note:** *Xplor* does not accept unsolicited article queries, manuscripts, photographs, or artwork. Any unsolicited material sent will not be returned.

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ON THE COVER

Three-Toed Box Turtle

by Noppadol Paothong

STRANGE BUT TRUE

Your guide to all the
UNUSUAL, UNIQUE,
AND **UNBELIEVABLE**
stuff that goes on in nature



An AMERICAN WOODCOCK'S

oversized eyes are located freakishly far back on its head. To accommodate this unusual peeper position, a woodcock's ears are found below the eyes, not behind them as with most birds.

Humans aren't the only animals that plant flowers. **ANTS** carry seeds from Dutchman's breeches to their nests. The seeds have a hard shell and a tasty, fleshy tip. Ants feed the tips to their babies and throw out the seeds, which soon sprout.



The louder they call, the harder they fall. For lovestruck **SPRING PEEPERS**, the most persistent guy gets the girl. Peepers that sing loudest and call most often attract more mates.

A **PLAINS POCKET GOPHER** is equipped with a pair of fur-lined pouches on either side of its mouth. The guinea pig-sized rodent uses the pockets to carry food and nesting materials. It can even turn its pockets inside out to clean them.



Most people think **MINNOWS** are itty-bitty fishies, but some of Missouri's largest lunkers are members of the minnow family. The



state record common carp is 55 pounds and the record grass carp is 71 pounds!

The sound of running water sends **BEAVERS** into a fix-it frenzy. Biologists learned this by leaving a speaker, which played water noises, on a leak-free beaver dam. When they returned, beavers had buried the speaker under sticks and mud.



The fuzz on a **BUMBLEBEE** isn't just for looks. The thick "fur" traps heat. This helps the hardy, hard-working insects buzz around in colder temperatures than most bees can tolerate.



WHAT IS IT?

DON'T KNOW? Jump to page 21 to find out.



- 1 Some people compare me to pants.
- 2 Like the kind that they wear north of France.
- 3 I'm really just like other plants.
- 4 Except I move by the efforts of ants.

Ask an OPOSSUM

Hi! I'm Phi, Xplor's mail possum. I know a lot about nature. If you have a question, email me at AskPhi@mdc.mo.gov.



Q: Why do owls hunt at night?
— From Harrison, age 7

A: Hoo knows? Maybe they're too lazy to get up early. My cousin Scruffy got eaten by an owl, so I'm not a fan. But to answer your question, owls hunt at night for several reasons. Special feathers let owls swoop silently, so nighttime is the right time to catch prey by surprise (poor Scruffy). Excellent eyesight and keen hearing help owls pinpoint prey in the dark. And finally, by working the night shift, owls don't compete with daytime hunters like hawks.

HOW TO

PLANT A POLLINATOR POT



Biologists are worried because bee and butterfly numbers are dropping. Loss of habitat is a big reason why. It doesn't take a ton of space to bring back the buzz. You can help by planting a pot of native wildflowers.

PICK POWER FLOWERS

Native wildflowers grow naturally in Missouri's prairies, forests, and other wild areas. You should use natives because they're adapted to Missouri's weather and they provide the best food for bees and butterflies. To find a garden center that sells native plants, visit grownative.org.

FIND A LARGE, DEEP POT

Native wildflowers have deep roots and need more space than non-native flowers. A pot that's 18 inches across will hold about three wildflowers. If you have smaller pots, you can plant one wildflower in each pot and group them together.

ADD SOIL

Fill your pot with potting soil, leaving an inch of free space below the lip of the pot so dirt won't run off when you water. Don't add fertilizer! It will make natives grow too tall and floppy.

PLANT YOUR FLOWERS

Space each seedling about 6 inches away from other plants in the pot. Water the soil regularly but don't drown the baby plants. Natives are adapted to Missouri's dry summers.

PLANTING RECIPES

The plants in these "recipes" were chosen because they don't mind tight spaces, look nice together, and bloom from spring to fall. It's best to buy seedlings (baby plants) because they bloom faster than seeds.

FLOWER FARMERS

Bees, butterflies, and other pollinators are nearly as important as sunlight and water to a plant. When pollinators fly from plant to plant, they transfer pollen from one flower to another. Flowers use the pollen to make seeds, which grow into new plants. More than 150 crops in the United States depend on pollinators. Foods such as apples, strawberries, and tomatoes wouldn't exist without these busy flower farmers.



FULL SUN (at least 8 hours of sun a day)

Purple coneflower, lanceleaf coreopsis, swamp or purple milkweed



PARTIAL SUN (4 to 6 hours of sun a day)

Star tickseed, Indian pink, sand phlox



SHADE (Less than 4 hours of sun a day)

Celandine poppy, Jacob's ladder, columbine

EGGSTRA

FROM SKY-BLUE ROBIN EGGS TO JIGGLY, JELLYLIKE FROG EGGS, BABY WRAPPERS COME IN AN ASTONISHING ARRAY OF SIZES, SHAPES, AND COLORS.

Nearly 99 percent of Earth's creatures hatch from eggs. Which makes sense. Eggs do an *eggcellent* job of protecting and nourishing the little critters growing inside of them. To kick off egg-laying season, we're *eggcited* to showcase some of the Show-Me State's *eggstraordinary* eggs.



© DEGGINGER, PHIL / ANIMALS ANIMALS

After a mama **BOX TURTLE** covers her eggs with dirt, the temperature of the nest will decide whether boy or girl turtles tunnel out three months later. Warmer nests usually produce girls. Cooler nests usually produce boys.

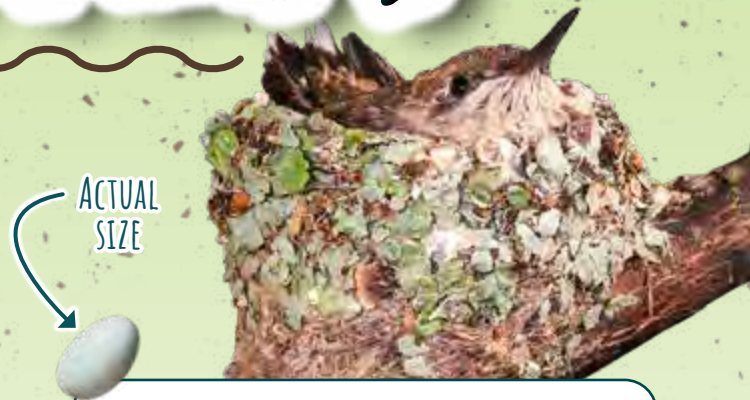
This baby box turtle used its "egg tooth" to poke a hole through its tough, leathery eggshell. Most baby birds and reptiles have an egg tooth. It's used to escape from the egg, and it disappears as the hatchling grows.



VAGANZA



Many mama reptiles lay their eggs and leave. **FIVE-LINED SKINKS** guard theirs. If any eggs spoil, the mama skink eats them so the smell doesn't attract predators. Once her blue-tailed babies hatch, mom scurries away, and the little lizards fend for themselves.



ACTUAL
SIZE



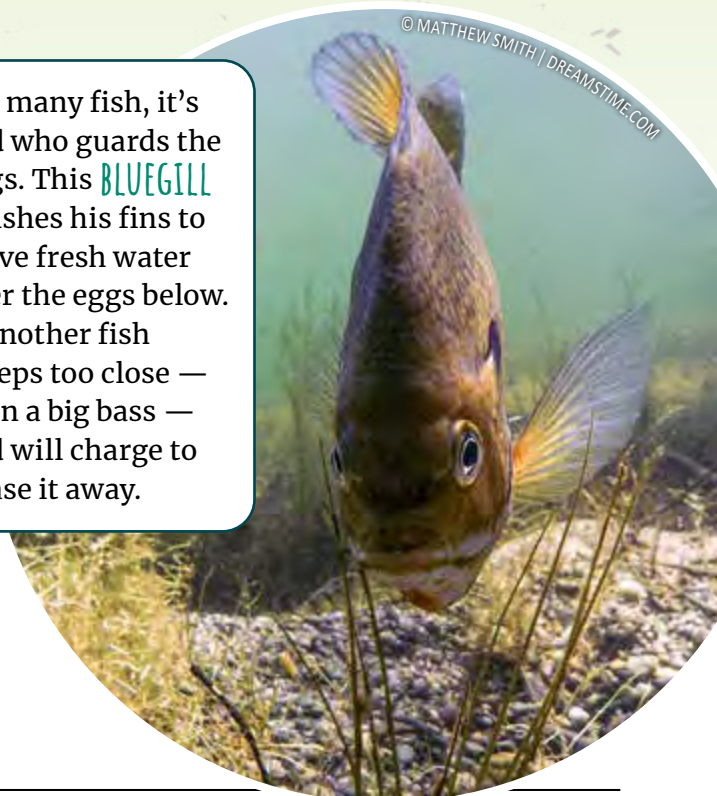
If you cut a penny into five equal slices, each piece would weigh as much as a **RUBY-THROATED HUMMINGBIRD**'s egg. Although the pea-sized eggs are the smallest of any bird in Missouri, they're quite large compared to a mama hummingbird.



Can you spot the eggs on this milkweed plant? Mama **MONARCHS** are picky about where they lay eggs. That's because baby monarchs only eat milkweed. It takes about four days for the tiny caterpillars to hatch. Once they chew their way out, each one eats its eggshell.



For many fish, it's dad who guards the eggs. This **BLUEGILL** swishes his fins to move fresh water over the eggs below. If another fish creeps too close — even a big bass — dad will charge to chase it away.





EGGS

CRAYFISH moms glue their eggs to the underside of their tail flippers. Even after the eggs hatch, the babies continue to cling for several weeks. Eventually, they swim off to explore nearby areas, but they dart back under mom's tummy if they feel threatened.



1" EGG



© COLIN WOODERSON | DREAMTIME.COM

Wrapped in a silken sac between this **NURSERY SPIDER's** legs are hundreds of eggs. Sometimes mom hides the sac on a leaf and spins a tiny tent of silk around it to keep the eggs safe. She guards the sac until her eight-legged babies hatch.

Those are some big honking eggs! **CANADA GEESE** win the prize for laying the largest eggs in Missouri — they're nearly twice the size of chicken eggs. Trumpeter swans and sandhill cranes both lay larger eggs, but these mega mamas rarely nest in the Show-Me State.

ACTUAL SIZE





It's amazing how much baby can fit inside an itty-bitty egg! Although an **EASTERN YELLOW-BELLIED RACER**'s egg is only about an inch long, the baby snake that slithers out of it can stretch up to 10 inches long.



Do you notice something strange about this nest? One of the eggs doesn't look like the others. The oddball was laid by a **BROWN-HEADED COWBIRD**. Cowbirds don't raise their own babies. Instead, they lay eggs in other birds' nests.

ROBIN NEST



Don't worry! This little **KILLDEER** isn't dead. It's just resting. Escaping from an egg is a lot of work! Killdeer lay their eggs on the ground, right out in the open. Luckily, the eggs are well camouflaged so predators have a hard time spotting them.



Lots of animals love to eat eggs. That's why some mamas lay so many. **AMERICAN BULLFROGS** can lay over 20,000 eggs at a time! Even though some of the eggs get gobbled up, it's a good bet that a few will turn into tadpoles.

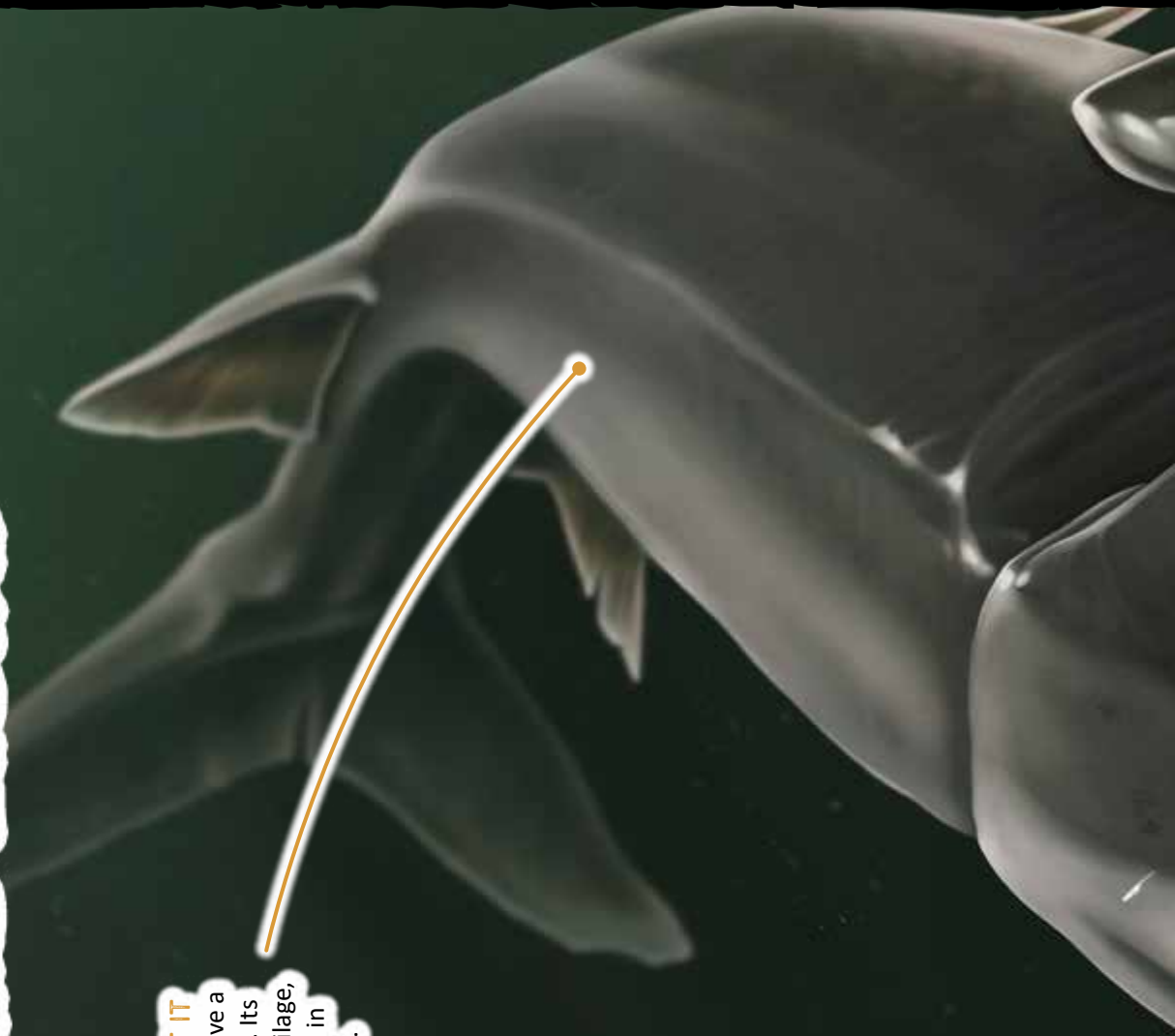
AMERICAN PADDLEFISH

NO BONES ABOUT IT

A paddlefish doesn't have a single bone in its body. Its skeleton is made of cartilage, the same tissue found in the tip of your nose.

BIG FISH, TINY FOOD

Paddlefish pack on pounds by eating itty-bitty crustaceans, insects, and other animals that drift as plankton.



SENSITIVE SNOOT

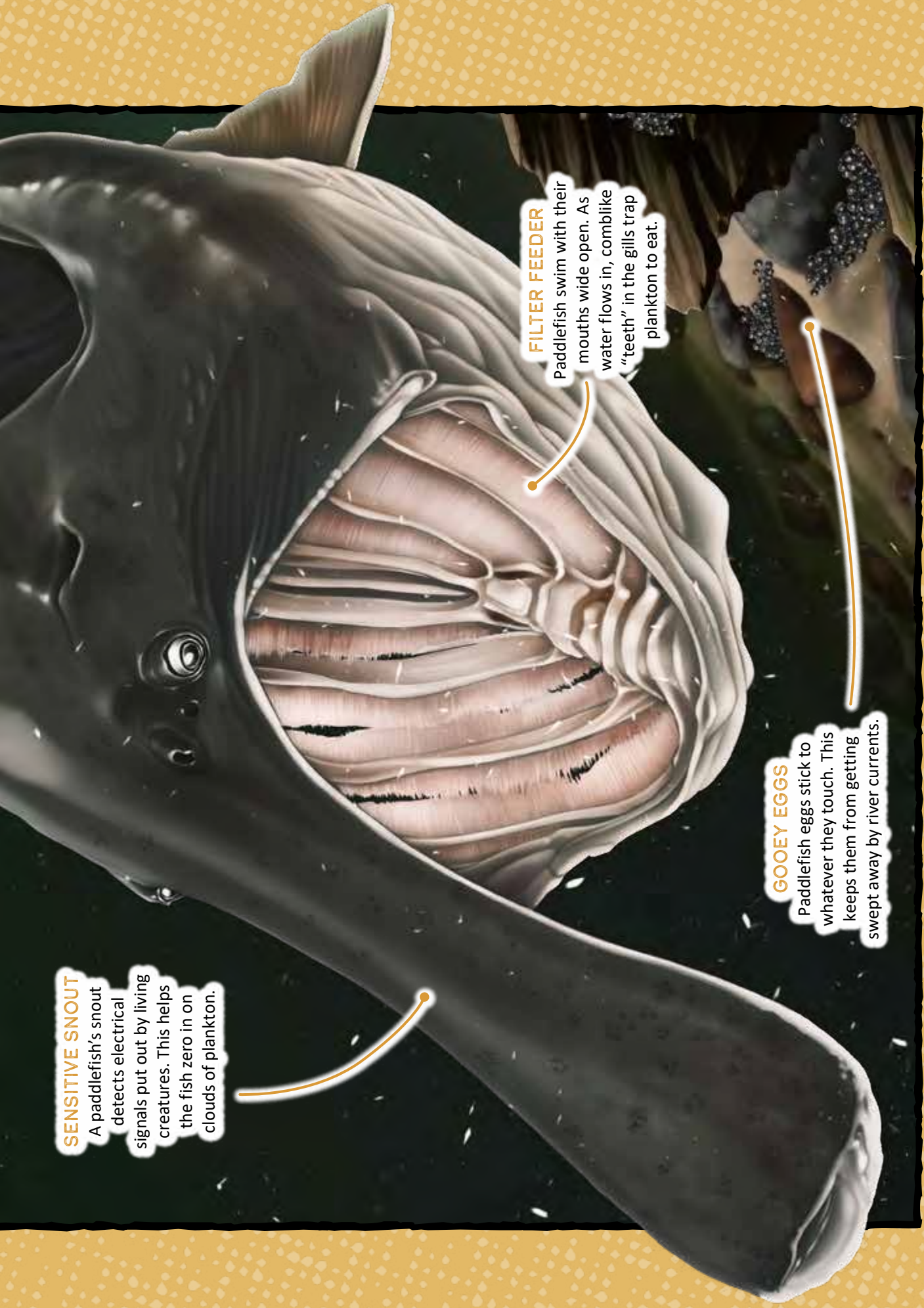
A paddlefish's snout detects electrical signals put out by living creatures. This helps the fish zero in on clouds of plankton.

FILTER FEEDER

Paddlefish swim with their mouths wide open. As water flows in, comblike "teeth" in the gills trap plankton to eat.

GOOEY EGGS

Paddlefish eggs stick to whatever they touch. This keeps them from getting swept away by river currents.



SENSATIONAL Salamanders



Hi!

My name's Slimy. I'm a spotted salamander.

Most people have never seen a creature like me in the wild. That's because we salamanders stay out of sight.

Lucky for you, I'm not shy. So let's rustle under the leaves for a peek at the secret world of Missouri's salamanders.

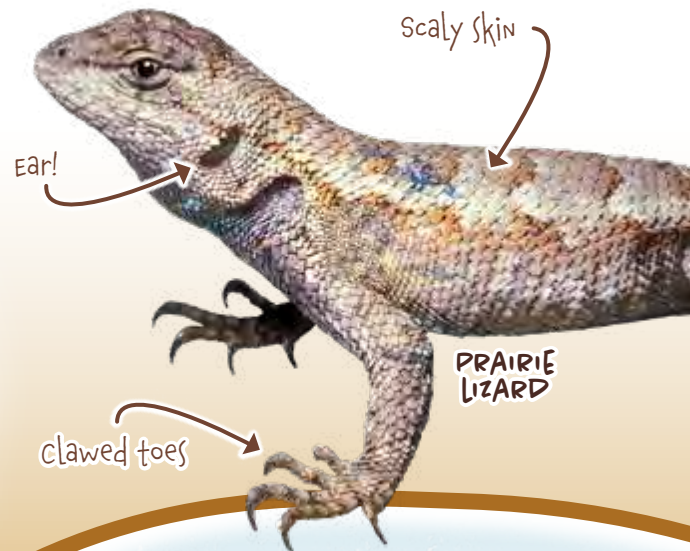
IT SNOT A LIZARD

If you thought I was a lizard, don't feel bad. Lots of people make that mistake. But lizards are reptiles, and I'm an amphibian.

Want proof? Take a look at my skin. See how it glistens so beautifully in the sunlight? That's because it's covered in mucus. A lizard's skin, on the other hand, is dry and covered in scales — yuck!

Next, look at my feet. Don't see any toenails, do ya? Just cute, fleshy little digits. Lizards have pokey claws on the tips of their toes — ewww!

And finally, check out my head. Notice something missing? Speak up, I can't hear you. Just kidding. I can hear fine, even though my ears are hidden under my skin. Lizards have holes in their heads — ear holes, I mean.



UNDERCOVER CRITTERS

Never play hide-and-seek with a salamander. Trust me, you'd lose. Although we're found in lots of places, people rarely see us because we're so good at hiding.

Some salamanders, like me, live in the forest. We hide under leaves, logs, and rocks or in shallow burrows dug by other animals. Sometimes we come out at night to look for food, especially after it rains.

Other salamanders spend their lives in the water. Sirens and amphiumas live in murky swamps and sloughs. Mudpuppies live in rivers and lakes. And hellbenders hide under rocks in swift Ozark streams. (I promise, I didn't make any of those names up.)

And a few salamanders, like cave and grotto salamanders, spend most of their time in — you guessed it — caves and crevices.



SLUGS FOR SUPPER

Salamanders eat lots of things — basically, whatever we can fit into our mouths.

Excuse me for a second. I need to slurp down this worm. Mmmmm, worms.

As I was saying, salamanders eat slugs, snails, insects, spiders, worms, and lots of other creepy crawlies. Tiger salamanders — who are named both for their stripes and their appetites — sometimes gobble larger prey like small snakes, baby mice, and even other salamanders. Hellbenders and other water-loving species eat crawdads, tadpoles, leeches, small fish, and aquatic insects.

Most salamanders wait for prey to wander close and then lunge forward to stuff it in their mouths. Some of us even have a sticky tongue — like our cousins, frogs and toads — that we can fling out to catch prey.

BARELY BREATHING

Every animal needs oxygen. Fish use gills to get it from the water. Reptiles, birds, and mammals use lungs to get it from the air. Salamanders said, “Why stick with just one way?”

Salamanders like me have a pair of lungs. To get oxygen, I breathe in and out just like you do. Marbled, mole, and tiger salamanders are a few of the species that use lungs.

Other salamanders use gills. Check out the mudpuppy. The reddish pompom thingies stuck behind its head are gills. Mudpuppies who live in stale water have bigger, floofier gills than mudpuppies who live in water that contains lots of oxygen.

And some salamanders have neither gills nor lungs. Cave, slimy, and other so-called lungless salamanders absorb oxygen through their skin. Since oxygen moves across wet skin easier than dry skin, mucus is *mucho* important. It keeps the skin wet, so the salamander can breathe easier.





THE CIRCLE OF LIFE

To me, rainy spring nights are romantic. That's when spotted salamanders creep out of our hidey-holes and hike to fish-free puddles and ponds for a pool party. There, boys look for girlfriends, and girls lay lots of jiggly, jellylike eggs.

In about a month, baby salamanders hatch out. But surprise! Unlike their air-breathing moms and pops, the little ones have gills and breathe water. They spend spring swimming about, searching for snacks like mosquito larvae.

Sniffle! They grow up so fast! By late spring, they have legs. And by summer, they have lungs. Most leave their ponds at this point, but a few spend winter underwater and depart the following spring. After living on land for a couple of years, the youngsters return to the water to throw their own pool parties.

Lots of salamanders go through transformations like this. We're like slimy butterflies. Only we don't fly. And we don't build cocoons. Or drink nectar. Or ... OK, you're right. We aren't like butterflies.





A SELECTION OF SALAMANDERS

Missouri has 19 kinds of salamanders. Most of us live in the Ozarks, but a few species also live up north. Here are some of my favorites.

Four-Toed Salamander

Need a new nose? No problem. New arm? Coming right up. That is, if you're a four-toed salamander. Like many salamanders, these moss-loving amphibians have an amazing ability to regrow new body parts if they're damaged — even eyes, hearts, limbs, and tails.



Ringed Salamander

The bright yellow stripes on this candy-bar-sized amphibian are a warning to would-be predators. When threatened, ringed salamanders release a milky poison from their skin that makes them taste terrible.



Eastern Hellbender

During the day, these super-sized salamanders — adults can be 20 inches long — hide under rocks in cold Ozark streams. At night, they slink slowly along the bottom, looking for crayfish to crunch. Their wrinkly skin helps them blend in, and it also helps them absorb oxygen from the water.





Cave Salamander

These flame-orange beauties can “feel” the Earth’s magnetic field. Their built-in compasses help them find their way around the darkest corners of caves.



Grotto Salamander

Eyes are overrated. Although grotto salamanders have peepers, they can’t see squat. And why would they need to? As adults they spend nearly all their time in pitch-black caverns.



Three-Toed Amphiuma

Even I have a hard time believing this one’s a salamander. But it is. Eel-like amphiumas live in cypress swamps. If their swamp dries up, no problem. They simply burrow into the muck and wait — sometimes for months without food — for rain to fill the swamp back up.



See you later!

XPLOR MORE

Whoa, Baby!

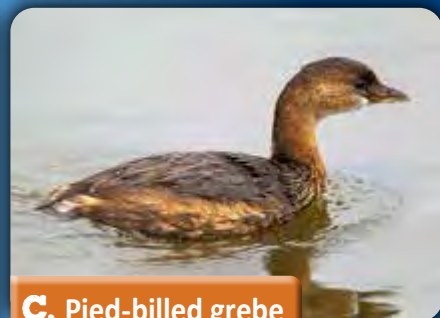
The Parents



A. Giant swallowtail



B. Western ratsnake

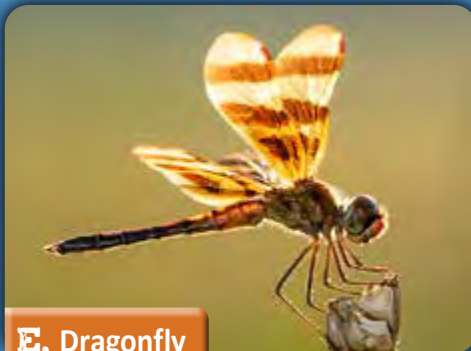


C. Pied-billed grebe



D. Aquatic beetle

TOM MURRAY CC BY-ND-NC 1.0

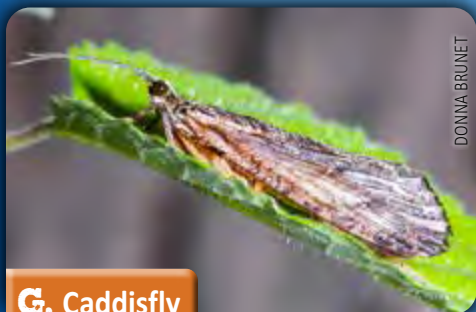


E. Dragonfly



F. Regal moth

© DAN RIECK | DREAMSTIME.COM



G. Caddisfly

DONNA BRUNET



H. American coot



I. Eastern yellow-bellied racer

JEFF BRIGGLER

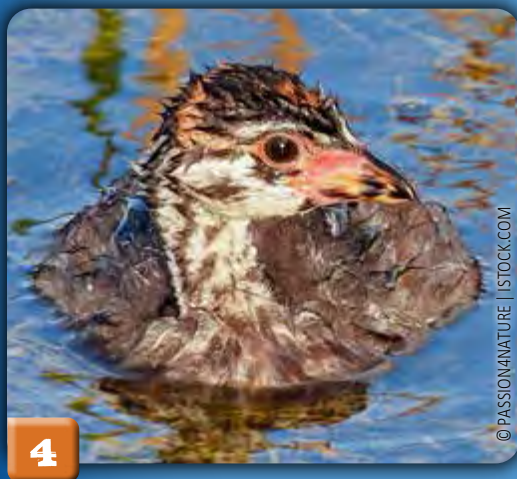
It takes about five years for a young bald eagle to grow the white head and tail feathers of an adult. Baby paddlefish hatch without their namesake snouts. And mountain lion cubs, which are born with spots, don't get solid tan fur until they're about 9 months old.

Most baby animals change as they grow up. But some little critters start life looking nothing like their parents.

Can you match these more familiar moms and pops to their bizarre babies?

The Babies

- | | | |
|----------------------------------|---|--------------------------|
| Giant swallowtail | A | <input type="checkbox"/> |
| Western ratsnake | B | <input type="checkbox"/> |
| Pied-billed grebe | C | <input type="checkbox"/> |
| Aquatic beetle | D | <input type="checkbox"/> |
| Dragonfly | E | <input type="checkbox"/> |
| Regal moth | F | <input type="checkbox"/> |
| Caddisfly | G | <input type="checkbox"/> |
| American coot | H | <input type="checkbox"/> |
| Eastern yellow-bellied racer ... | I | <input type="checkbox"/> |



GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



FLOWERING DOGWOODS sprout beautiful white blooms in mid-April. Look for this showy shrub on hillside forests throughout Missouri.



LUNA MOTHS emerge from cocoons in early April. But you'll need to stay up late to see one fluttering around your porch light. The lime-green beauties are active about midnight.

If birds could win Oscars, the killdeer would earn best actor. To lead predators away from its nest, the dramatic bird pretends to have a broken wing. To see this performance, **LOOK FOR KILLDEER** in mowed pastures and gravel parking lots.

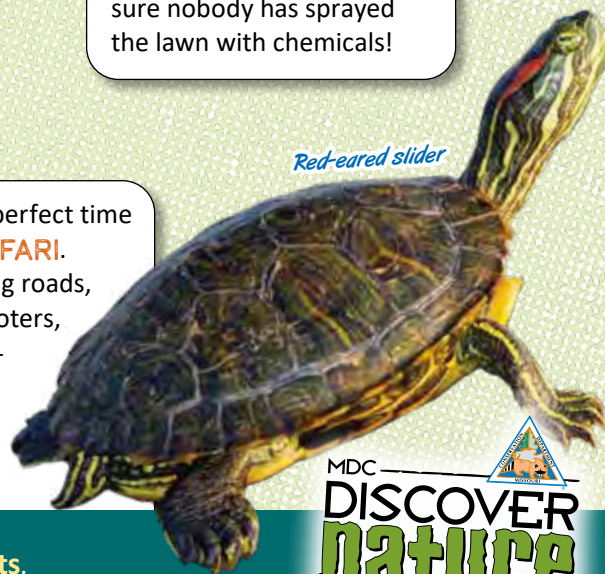


DON'T THROW AWAY DANDELIONS you pluck from your lawn. The weed's tender leaves can be tossed into salads or steamed with creamy pasta. Just make sure nobody has sprayed the lawn with chemicals!



Three-toed box turtle

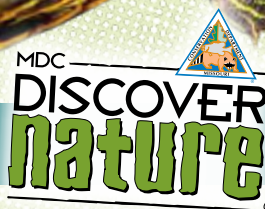
Warm spring days are the perfect time to **GO ON A TURTLE SAFARI**. Look for box turtles crossing roads, search streams for river cooters, and check lake logs for red-eared sliders. How many of Missouri's 18 shelled reptiles can you find?



Red-eared slider



Looking for more ways to have fun outside? Find out about Discover Nature programs in your area at mdc.mo.gov/events.



WHAT
IS
IT?

— FROM PAGE 3 —



DUTCHMAN'S BREECHES

Dutchman's breeches is a wildflower that blooms from mid-March through April on forested hillsides throughout Missouri. The plant's dainty white flowers look like tiny pairs of pants (breeches), similar to the kind once worn by farmers in the Netherlands. The beautiful blossoms are short-lived. Once trees leaf out, Dutchman's breeches disappear. The plant's seeds, however, are collected by ants and spread to other locations.

GO FIND IT!



Cut out this critter card and take it with you outside.
How many of the things on the card can you find?

BLUE JAY



SCAM CALLER

Blue jays mimic a variety of sounds. To scare away other birds, they sometimes whistle like a hawk.

CREST TO IMPRESS

For clues about a jay's mood, look at its crest of feathers. A happy jay keeps its crest lowered. An upset jay raises its crest high.

BABY BLUES

If you find a baby jay, leave it alone. Its parents — who are probably raising a ruckus nearby — will feed the youngster until it can fly.

ONLY THEY CAN TELL

Boy and girl blue jays look alike. But only females incubate eggs, so if you see a jay on a nest, it's almost certainly a girl.

STUFF IT!

If you see a jay with a swollen neck, it doesn't have a sore throat. Jays transport acorns by stuffing them down their flexible throats.

SUBSCRIBE ONLINE

mdc.mo.gov/xplor

FREE TO MISSOURI HOUSEHOLDS

GO FIND IT! 

Is this blue jay happy or upset? Flip the card for a clue. Jays are found in forests, parks, and backyards. To learn more about this colorful, noisy bird, fly over to mdc.mo.gov/field-guide.



BLUE JAY